SANYO

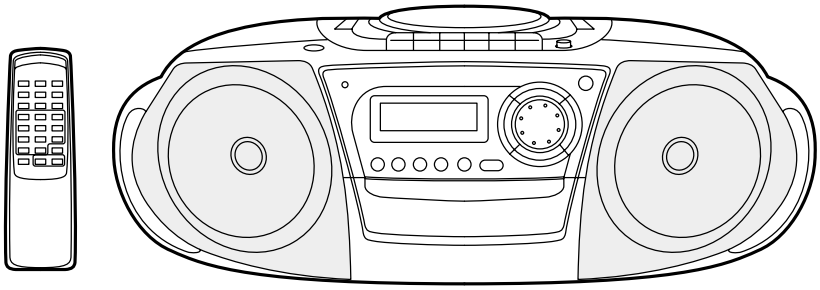
FILE NO.

Service Manual

CD Portable Radio Cassette Recorder

MCD-ZX700F

(XE)



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164 081 00

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REFERENCE No. SM5810290

SPECIFICATIONS

CD CHANGER SECTION

Channels ..... 2-channel stereo
Sampling frequency ..... 44.1 kHz
Pick-up ..... semiconductor laser
Laser output ..... 0.6 mW (Continuous wave max.)
Wave length ..... 790 nm
Wow and Flutter ..... Below measurable limits

Radio

Reception frequency
FM ..... 87.5 - 108 MHz (500 kHz step)
AM ..... 522 - 1,710 kHz (9 kHz step)

CASSETTE DECK

Track system ..... 4 - track, 2 - channel stereo
Erasing system ..... Magnet erase
Tape speed ..... 4.75 cm/sec
Frequency response ..... 80 - 12,000 Hz
Fast forward and Rewind time .... Approx. 110 sec. (C - 60)

GENERAL SECTION

Output power ..... 3 W/ch (DC max.)
Speaker ..... 10 cm X 2
Terminal ..... PHONE : 32
Power source ..... AC : 110 - 120/220 - 240 V , 50/60 Hz
..... DC : 12V, 8 "R20/D" batteries
Dimensions ..... Approx. 480(W) x 167(H) x 258(D) mm
Weight (approx.) ..... 3.0 kg (without batteries)

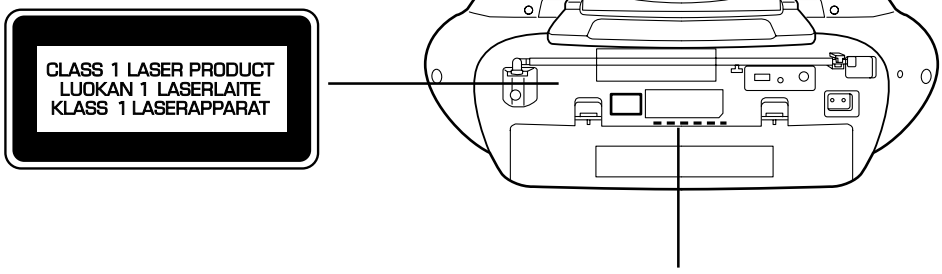
Specifications subject to change without notice.

LASER BEAM SAFETY PRECAUTION

• Pickup that emits a laser beam is used on this CD section.

CAUTION :
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

LASER OUTPUT ..... 0.6 mW Max. (CW)
WAVE LENGTH ..... 790 nm



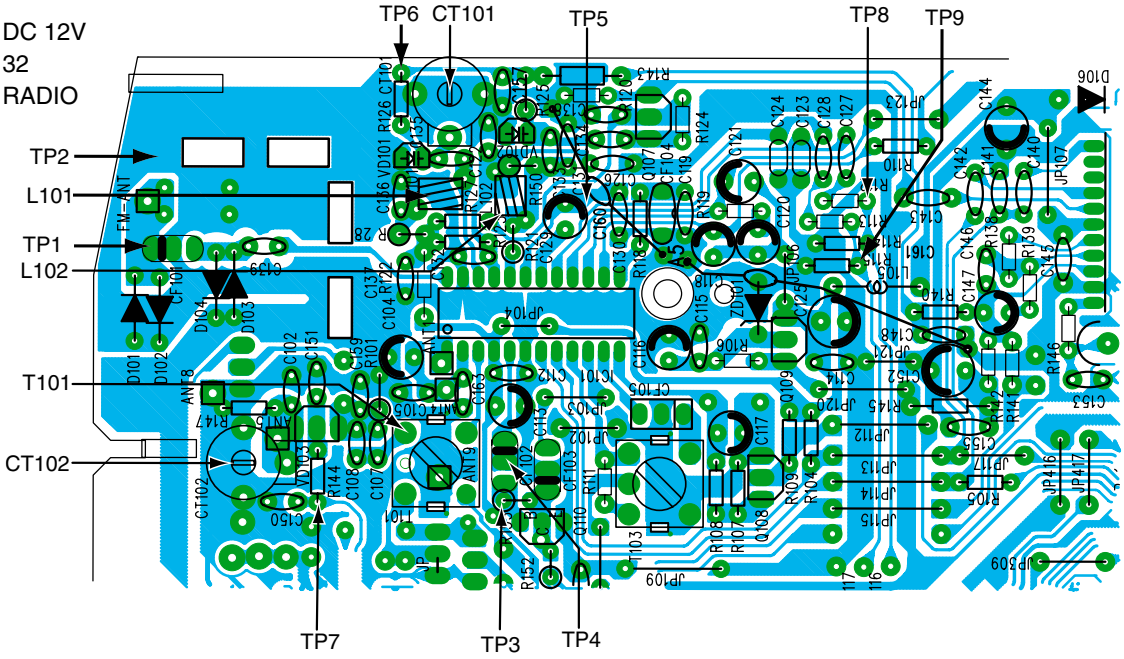
CAUTION – INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.
ADVARSEL – USYNLIG LASER STRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION, UNDGÅ UDS ÆTTELSE FOR STRÅLING.
VARNING – OSYNLIG LASER STRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRR ÄR URKOPPLAD. STRÅLEN ÄR FARLIG.
VORSICHT – UNSICHTBARE LASERSTRAHLUNG TRITT AUS, WENN DECKEL GEÖFFNET UND WENN SICHERHEITSVERRIEGELUNG ÜBERBRÜCKT IST. NICHT, DEM STRAHL AUSSETZEN.
VARO – AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.

TUNER ADJUSTMENTS

- Use a plastic screw driver for adjustments.
- Adjust the intermediate frequency of AM and FM to the frequency of ceramic filter.
- Set of unit

  Supply voltage : DC 12V
  Speaker : 32
  Function switch : RADIO

PARTS LOCATION



1. AM ADJUSTMENT

Step	Adjusting Circuit	Tuning Frequency	Input Connection		Output Connection		Adjust-ment	VTVM Oscilloscope
			Instrument	Input	Instrument	Output		
1	IF (450 KHz)	999 KHz	AM sweep generator	Loop ANT.	VTVM oscilloscope	Speaker	T103	Max.
2	Tuning coverage	522 KHz	---	---	Digital voltmeter	TP7(H) TP2(E)	T101	1.5V±0.05V
3		1611 KHz	---	---			---	7.4V±0.1V
4	Tracking	603 KHz	AM signal generator	Loop ANT.	VTVM oscilloscope	Speaker	AM COIL	Max.
5		1404 KHz					CT102	

1. FM ADJUSTMENT **BAND SELECT SWITCH : FM** **FM Dummy Antenna:75Ω unbalance**

Step	Adjusting Circuit	Tuning Frequency	Input Connection		Output Connection		Adjust-ment	VTVM Oscilloscope
			Instrument	Input	Instrument	Output		
1	IF 10.7NHz	98.0MHz	FM sweep generator	TP3(H) TP4(E)	VTVM oscilloscope	TP5(H) TP4(E)	---	Non Adjustmen
2	Tuning coverage	87.5Hz	---	---	Digital voltmeter	TP6(H) TP2(E)	L102	2.0V±0.1V
3		108.0MHz	---	---			---	7.2V±0.1V
4	Tracking	90.0.MHz	FM signal generator	TP1(H) TP2(E)	VTVM oscilloscope	TP8(H) TP9(E)	L101	Max.
5		106.0MHz					CT103	

This is a basic adjustment.

TAPE DECK ADJUSTMENTS

1. HEAD REPLACEMENT

- After replacement, demagnetize the heads by using a degausser.
- Be sure to clean the heads before attempting to make any adjustments.
- All wiring should be returned to the original position after work is completed.

2. HEAD AZIMUTH ADJUSTMENT

(1) Load the test tape(VTT-703, etc., 10 kHz) for azimuth adjustment.
(2) Press the **PLAY** button.
(3) Use a cross-tip screwdriver to turn the screw for azimuth adjustment so that the left and right output are maximized.
(4) Press the **STOP** button.
(5) After completion of the adjustment, use thread lock(TB-1401B) to secure the azimuth-adjustment screw.

3. AC BIAS FREQUENCY ADJUSTMENT

(1) Connect counter to T201(BS).
(2) R/P switch in recording state.
(3) Adjustment T801 a plastic screw , AC bias frequency : 80 kHz.

4. MOTOR SPEED ADJUSTMENT

(1) Insert the test tape(TCC-119, etc., 3,000 Hz).
(2) Press the **PLAY** button.
(3) Use a flat-tip screwdriver to turn the SVR(located inside the rear of the motor) to adjust SVR so that the frequency counter become 3,000 Hz.

5. CHECKING THE MECHANISM TORQUES AND TENSION

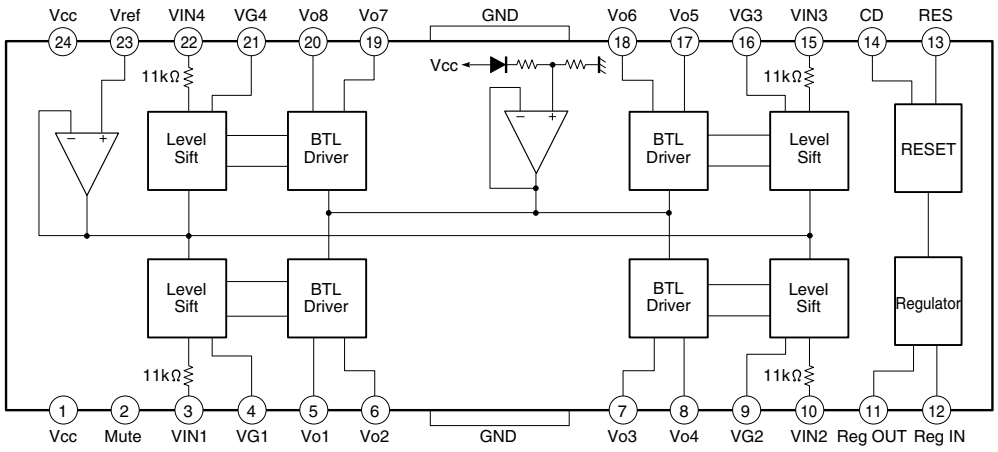
- Clean the head, capstan and pinch roller before making any measurement.

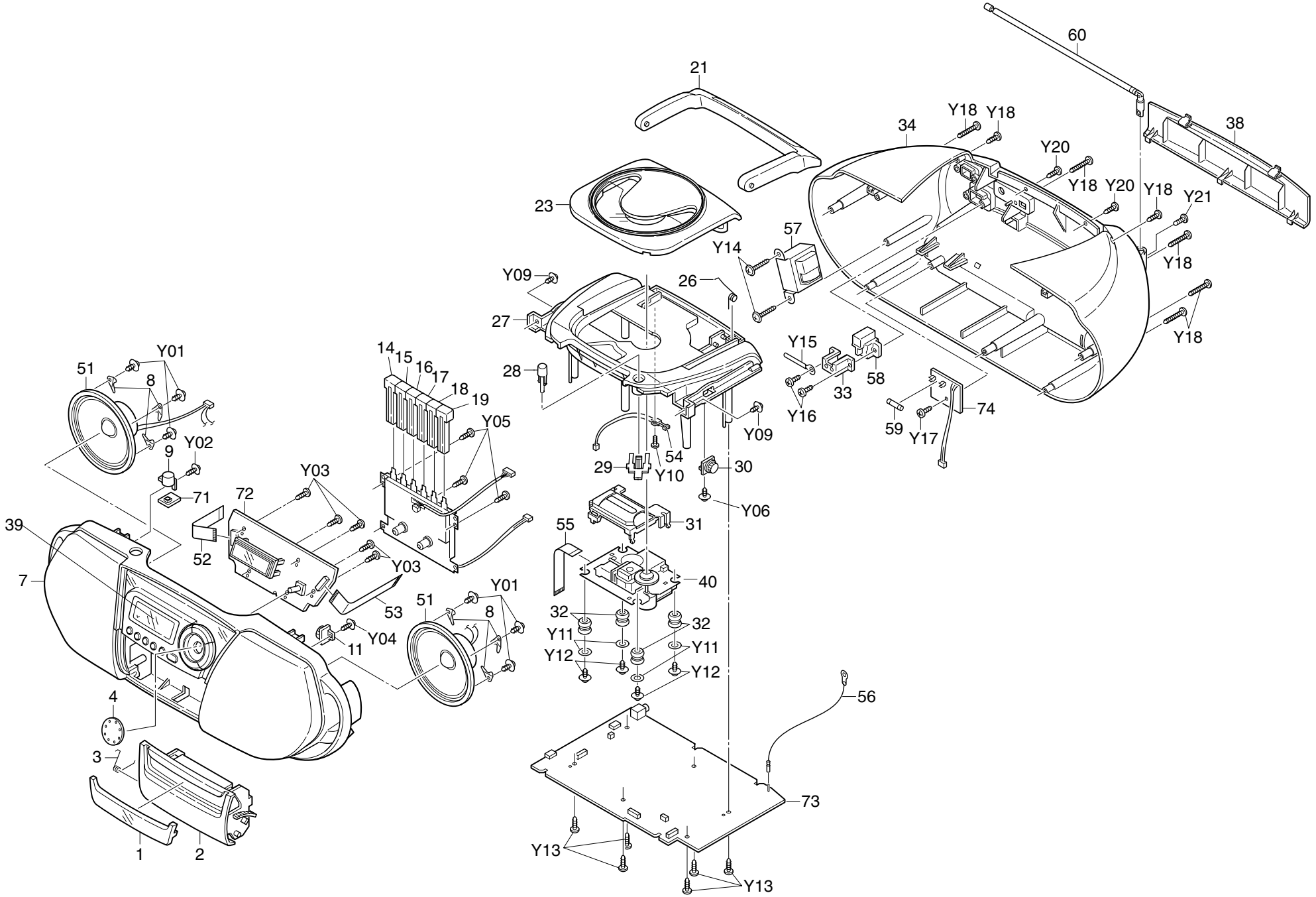
Measurement	Take-up torque	Back tension	Tape tension
Cassette for measurement	PLAY : TW-211A F.FW/REW : TW-2231	PLAY : TW-2111A	Drive-power cassete TW-2412
PLAY	30 - 60 gr.cm	2.0 - 4.5 gr.cm	60 gr or more.
F.FWD	55 - 120 gr.cm.	-----	-----
REW	55 - 120 gr.cm.	-----	-----

This is a basic adjustment.

IC BLOCK DIAGRAM & DESCRIPTION

IC903 LA6541D(CD Driver)

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Y13

PARTS LIST

PRODUCT SAFETY NOTICE

EACH PRECAUTION IN THIS MANUAL SHOULD BE FOLLOWED DURING SERVICING. COMPONENTS IDENTIFIED WITH THE IEC SYMBOL ⚠ IN THE PARTS LIST AND THE SCHEMATIC DIAGRAM DESIGNATE COMPONENTS IN WHICH SAFETY CAN OF SPECIAL SIGNIFICANCE. WHEN REPLACING A COMPONENT IDENTIFIED , USE ONLY THE REPLACEMENT PARTS DESIGNATED, OR PARTS WITH THE SAME RATINGS OF RESISTANCE, WATTAGE OR VOLTAGE THAT ARE DESIGNATED IN THE PARTS LIST IN THIS MANUAL. LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS MUST BE MADE TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE PRODUCT TO THE CUSTOMER.

CAUTION : Regular type resistors and capacitors are not listed. To know those values, refer to the schematic diagram.
Regular type resistors are less than 1/4W carbon type and 0 ohm chip resistors.
Regular type capacitors are less than 50V and less than 1000μF of Ceramic type and Electrolytic type.

PACKING & ACCESSORIES

REF.NO.	PART NO.	DESCRIPTION
	645 055 7705	INSTRUCTION MANUAL
	645 027 2073	POLY BAG,PWR CORD
	645 044 1943	POLY BAG,I/B
	645 035 1334	POLY BAG PE 18 X 24,UNIT
	645 055 7804	POLY FOAM,2 PCS LEFT&RIGHT
	645 055 7927	CARTON CASE
⚠	645 023 3463	POWER CORD,VDE APP
	645 055 6760	REMOTE CTL,RC24-102000-070

CABINET & CHASSIS

REF.NO.	PART NO.	DESCRIPTION
1	645 055 7620	CASS DOOR LENS
2	645 055 6746	ASSY CASS LID
3	645 055 7798	CASS DOOR SPRING
4	645 055 7484	KNOB ROTARY,VOL
7	645 055 6708	ASSY CABINET
8	645 033 0360	SPK CLIP
9	645 055 7613	KNOB POWER CTL
11	645 033 4252	ASSY,GEAR CASS DOOR
14	645 055 7354	KNOB CASS PAUSE
15	645 055 7361	KNOB CASS STOP/EJECT
16	645 055 7378	KNOB CASS FFWD
17	645 055 7385	KNOB CASS REWIND
18	645 055 7392	KNOB CASS PLAY
19	645 055 7408	KNOB CASS RECORD
21	645 055 7347	HANDLE
23	645 055 6739	ASSY CD LID
26	645 042 0351	CD DOOR SPRING
27	645 055 7552	CD TRAY,TOP PANEL
28	645 055 7576	KNOB CD DOOR,OPEN
29	645 055 7545	CD DOOR LOCK
30	645 042 9378	ASSY GEAR CD DOOR
31	645 042 0375	CD MECHA COVER
32	645 033 3446	RUBBER SILICON
33	645 033 0391	AC SKT COVER
34	645 055 6692	ASSY CABINET REAR
38	645 055 7477	BATTERY LID
39	645 055 7651	FRONT CAB LENS
40	645 054 0776	CD DECK MECHANISM,13933162

FIXING PARTS

REF.NO.	PART NO.	DESCRIPTION
Y01	645 027 1168	SCR 3X8,SPK
Y02	645 023 6624	SCREW ST 3X10,POWER KNOB
Y03	645 023 6617	SCREW ST 3X10,CD CTL BD
Y04	645 027 1168	SCR 3X8,CASS DOOR GEAR
Y05	645 023 6617	SCREW ST 3X10,CASS DECK
Y06	645 027 1168	SCR 3X8,CD DOOR GEAR
Y10	645 033 4276	SCR 2X6,CD MICRO SW
Y11	645 027 1373	WASHER METAL
Y12	645 033 0247	SCR 2.6X8,CD DECK
Y13	645 023 6594	SCREW ST 3X8,MAIN BD
Y14	645 027 1182	SCR 3X20,X'FORMER
Y15	645 027 1328	SOLDERING SLUG
Y16	645 027 1144	SCR 2.8X12,AC SOCKET
Y17	645 023 6594	SCREW ST 3X8,RECTIFIER BD
Y18	645 027 1199	SCR 3X30,F CAB TO R CAB
Y20	645 023 6648	SCREW ST 3X12, CD TRAY TO F CAB
Y21	645 027 1236	SCR 3X8,RADIO ANT

ELECTRICAL-PARTS

REF.NO.	PART NO.	DESCRIPTION
51	645 055 6777	SPK 4, SPK
52	645 055 7231	13P FFC CABLE,TO CTL BD CN702
53	645 055 7248	15P FFC CABLE,TO CTL BD CN701
54	645 043 9780	LEAF SW,CD LID SW
55	645 055 7255	16P FFC CABLE,TO CD DECK
56	645 042 0184	HSG 1PIN,FM ANT
57	⚠ 645 041 9881	PWR TRANS,V3023FS
58	⚠ 645 032 9760	AC SOCKET S-1-1225,VDE
59	⚠ 645 055 7149	FUSE GLASS TUBE,FS1101
60	645 041 9928	ROD ANTENNA,2 SECTION

POWER P.W.BOARD ASSY

REF.NO.	PART NO.	DESCRIPTION
71	614 324 1850	ASSY,PWB POWER(Only initial)
SW711	645 042 0023	SW TACT,POWER ON /OFF

DISPLAY P.W.BOARD ASSY

REF.NO.	PART NO.	DESCRIPTION
72	614 324 1843	ASSY,PWB DISPLAY(Only initial)
C0709	645 055 6784	GOLD CAP DX-5R5H104
CN701	645 033 3675	FFC HEADER 15PINS
CN702	645 034 8440	FFC HEADER 13PINS
D0701	645 055 6821	DIODE 1N4148
D0703	645 055 6821	DIODE 1N4148
D0708	645 055 6821	DIODE 1N4148
D0709	645 055 6821	DIODE 1N4148
D0710	645 055 6821	DIODE 1N4148
D0711	645 055 6821	DIODE 1N4148
D0713	645 055 6821	DIODE 1N4148
D0715	645 055 6821	DIODE 1N4148
D0716	645 055 6821	DIODE 1N4148
D0717	645 055 6821	DIODE 1N4148
D0720	645 055 6821	DIODE 1N4148
D0721	645 055 6821	DIODE 1N4148
D0722	645 055 6821	DIODE 1N4148
D0726	645 055 6821	DIODE 1N4148
D0727	645 055 6821	DIODE 1N4148
D0729	645 055 6821	DIODE 1N4148
ED701	645 054 0615	LED ROUND TYPE,LED701
IC701	645 055 7040	IC LC587008 1P08
IC702	645 055 6951	IC PST600C
IC703	645 055 6968	IC PST600L
IR701	645 033 3477	DIODE RPM-6938-V4
L0701	645 034 6729	INDUCTOR 100UH
L0702	645 034 6729	INDUCTOR 100UH
LD701	645 055 7071	LCD DISPLAY,LCD701
Q0702	645 055 6890	TR 2SC3400AC
Q0703	645 055 6852	TR DTA114TS
Q0705	645 055 6890	TR 2SC3400AC
Q0706	645 055 6890	TR 2SC3400AC
Q0708	645 055 6890	TR 2SC3400AC
Q0709	645 032 9890	TR KTC-9015C
Q0710	645 055 6890	TR 2SC3400AC

PARTS LIST

REF.NO.	PART NO.	DESCRIPTION
Q0711	645 032 9890	TR KTC-9015C
Q0712	645 055 6890	TR 2SC3400AC
SW701	645 042 0023	SW TACT,TAPE
SW702	645 042 0023	SW TACT,TUN / BAND
SW703	645 042 0023	SW TACT,FM MODE/RANDOM
SW704	645 042 0023	SW TACT,PERSET/REPEAT
SW705	645 042 0023	SW TACT,MEMORY
SW706	645 042 0023	SW TACT,BASS
SW707	645 042 0023	SW TACT,STOP
SW708	645 042 0023	SW TACT,B-SKIP
SW709	645 042 0023	SW TACT,CD /PLAY
SW710	645 042 0023	SW TACT,F-SKIP
VR701	645 055 7309	ROTARY ENCODER
X0701	645 055 7101	RESONATOR 4MHZ
X0702	645 055 7125	CRYSTAL
	645 055 7521	DISPLAY BKT
	645 055 7538	LED BKT

CD MAIN/AMP/TU P.W.BOARD ASSY

REF.NO.	PART NO.	DESCRIPTION
73	614 324 1836	ASSY,PWB CD MAIN/AMP/TU (Only initial)
C0108	645 055 6791	POLY CAP 390PF
C0123	403 057 7501	POLYESTER 0.012U K 50V
C0124	403 057 7501	POLYESTER 0.012U K 50V
C0206	403 056 7908	POLYESTER 1000P K 50V
C0207	403 056 7908	POLYESTER 1000P K 50V
C0212	403 060 8205	POLYESTER 0.033U K 50V
C0213	403 060 8205	POLYESTER 0.033U K 50V
C0218	403 056 7908	POLYESTER 1000P K 50V
C0219	403 056 7908	POLYESTER 1000P K 50V
C0311	403 057 2803	POLYESTER 0.1U K 50V
C0312	403 057 2803	POLYESTER 0.1U K 50V
C0513	403 060 0506	POLYESTER 2700P K 50V
C0514	403 060 0506	POLYESTER 2700P K 50V
C0801	403 059 5901	POLYESTER 0.022U K 50V
C0802	403 057 0403	POLYESTER 0.01U K 50V
C0804	403 059 3600	POLYESTER 2200P K 50V
C0901	403 057 2803	POLYESTER 0.1U K 50V
C0902	403 060 8205	POLYESTER 0.033U K 50V
C0905	403 060 6102	POLYESTER 3300P K 50V
C0906	403 062 0306	POLYESTER 0.047U K 50V
C0907	403 058 5209	POLYESTER 0.15U K 50V
C0910	403 056 7908	POLYESTER 1000P K 50V
C0911	403 057 2803	POLYESTER 0.1U K 50V
C0912	403 058 3205	POLYESTER 0.015U K 50V
C0913	403 058 9900	POLYESTER 0.018U K 50V
C0920	403 059 3600	POLYESTER 2200P K 50V
C0923	403 060 8205	POLYESTER 0.033U K 50V
C0944	403 057 2803	POLYESTER 0.1U K 50V
C0970	403 058 5209	POLYESTER 0.15U K 50V
CF101	645 055 6937	BAND PASS FILTER
CF102	645 055 6913	CERAMIC FILTER
CF103	645 055 6913	CERAMIC FILTER
CF104	645 055 6906	CERAMIC FILTER
CF105	645 055 6920	CERAMIC FILTER
CN101	645 042 0177	FFC HEADER 15PINS
CN201	645 055 7170	5P HEADER
CN301	645 027 3803	WAFER 4P
CN401	645 027 3803	WAFER 4P
CN403	645 032 9982	HEADER 3PINS
CN901	645 055 7163	16P FFC HEADER
CN903	645 034 6781	FFC HEADER 13PINS
CN904	645 034 6798	HEADER 2PINS
CT101	645 023 6310	TRIMMER 10PF
CT102	645 023 6310	TRIMMER 10PF
D0101	645 055 6821	DIODE 1N4148
D0102	645 055 6821	DIODE 1N4148
D0103	645 055 6821	DIODE 1N4148
D0104	645 055 6821	DIODE 1N4148
D0105	645 055 6821	DIODE 1N4148
D0106	645 055 6821	DIODE 1N4148
D0301	645 055 6821	DIODE 1N4148
D0302	645 055 6821	DIODE 1N4148
D0303	645 023 6112	RECTIFIER 1N-4001
D0304	645 055 6821	DIODE 1N4148
D0305	645 055 6821	DIODE 1N4148
D0306	645 055 6821	DIODE 1N4148
D0307	645 055 6821	DIODE 1N4148
D0308	645 055 6821	DIODE 1N4148
D0309	645 055 6821	DIODE 1N4148
D0310	645 055 6821	DIODE 1N4148
D0311	645 055 6821	DIODE 1N4148
D0312	645 055 6821	DIODE 1N4148
D0313	645 055 6821	DIODE 1N4148
D0402	645 055 6821	DIODE 1N4148
D0901	645 055 6821	DIODE 1N4148
D0902	645 055 6821	DIODE 1N4148
IC101	645 055 6975	IC LA1823ESIA
IC102	645 055 7019	IC LC72131
IC201	645 055 6999	IC TA8142AP
IC301	645 032 9920	IC LA-4227
IC401	645 055 6982	IC KIA7808P
IC402	645 055 7033	IC S81256SGYX
IC501	645 055 7026	IC LC75342
IC901	645 055 7002	IC LA9241M
IC902	645 033 4740	IC LC78622E
IC903	645 033 4702	IC LA6541D
JK301	645 033 3743	EARPHONE JACK
L0101	645 049 9913	FM COIL 4.5T
L0102	645 027 0345	VHF COIL
L0105	645 027 0352	CHOKE COIL 100UH
L0301	645 044 1721	FERRITE BEAD
L0302	645 044 1721	FERRITE BEAD
L0303	645 044 1721	FERRITE BEAD
L0501	645 034 7177	INDUCTOR 1000UH
L0901	645 042 0108	CHOKE COIL 26UH
Q0107	645 034 6866	TR 2SC2839E
Q0108	645 034 7078	TR 2SC3330U
Q0109	645 027 0420	TR 8050C
Q0110	645 055 6876	TR 9018F
Q0301	645 033 3538	TR 2SD1936S AC
Q0302	645 033 3538	TR 2SD1936S AC
Q0303	645 023 6129	TR 9014C
Q0304	645 023 6129	TR 9014C
Q0305	645 023 6129	TR 9014C
Q0401	645 055 6883	TR KSA928A
Q0402	645 023 6129	TR 9014C
Q0403	645 055 6869	TR 8550B C
Q0404	645 023 6129	TR 9014C
Q0405	645 027 0420	TR 8050C
Q0407	645 055 6869	TR 8550B C
Q0408	645 023 6129	TR 9014C
Q0409	645 027 0420	TR 8050C
Q0801	645 027 0420	TR 8050C
Q0803	645 023 6129	TR 9014C
Q0901	645 033 3538	TR 2SD1936S AC
Q0902	645 033 3538	TR 2SD1936S AC
Q0903	645 033 3538	TR 2SD1936S AC
Q0904	645 033 3538	TR 2SD1936S AC
Q0905	645 033 3521	TR 2SA1317S AC
Q0907	645 033 3514	TR 2SB764D
Q0908	645 041 9959	TR 2SA1346AC
Q0909	645 033 3538	TR 2SD1936S AC
Q0910	645 033 3538	TR 2SD1936S AC
R0329	402 071 1304	FUSIBLE RES 2.2 JA 1/4W
SW100	645 055 7064	SW TACT,RESET
SW201	645 023 6327	SW RECORDING PS62D01-S,SH
T0101	645 055 6944	IFT,OSC 1A612R
T0103	645 033 3866	AM COIL,IF 2070
T0801	645 027 0307	BIAS COIL,IFT 3630
VD101	645 055 6807	DIODE SVC201
VD102	645 055 6807	DIODE SVC201
VD103	645 055 6814	DIODE SVC348
X0101	645 055 7118	CRYSTAL
X0901	645 052 4837	RESONATOR 16.934MHZ
ZD101	645 055 6838	ZENER 5.6V
ZD401	645 055 6845	ZENER 13V

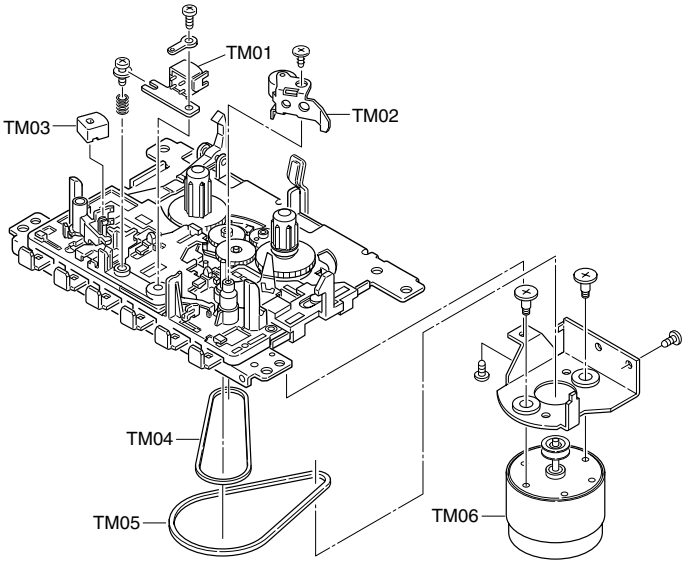
PARTS LIST

REF.NO.	PART NO.	DESCRIPTION
	645 051 6474	FERRITE BEAD, PRI OF X'FORMER TO AC SK
	645 055 7095	FERRITE BEAD,CN401 TO CN1101
	645 055 7200	HSG 4P,CN401 TO CN1101
	645 042 0184	HSG 1PIN,FM ANT
	645 042 0337	HEAT SINK
	645 055 6685	ASSY BAR ANT

RECTIFIER P.W.BOARD ASSY

REF.NO.	PART NO.	DESCRIPTION
74	614 324 1867	ASSY,PWB RECTIFIER(Only initial)
D1101	645 023 6112	RECTIFIER 1N-4001
D1102	645 023 6112	RECTIFIER 1N-4001
D1103	645 023 6112	RECTIFIER 1N-4001
D1104	645 023 6112	RECTIFIER 1N-4001
D1105	645 055 6821	DIODE 1N4148
F1101	645 055 7149	FUSE GLASS TUBE,FS1101
	⚠645 035 0511	FUSE HOLDER MW1010K
	645 042 0320	HEAT SINK
	645 027 1397	NUT,HEAT SINK

EXPLODED VIEW & PARTS LIST(TAPE DECK)

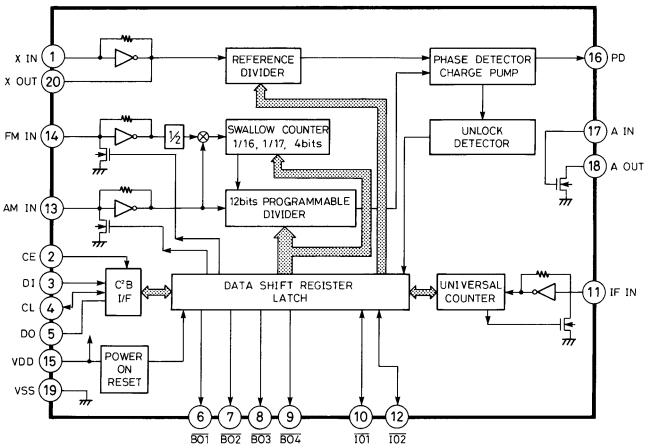


TAPE DECK MECHANISM PARTS LIST

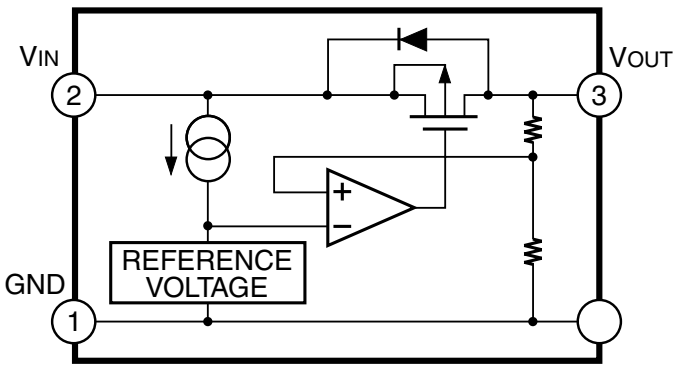
REF.NO.	PART NO.	DESCRIPTION
	645 050 1814	CASS DECK MECHANISM
TM01	645 018 0637	R/P HEAD
TM02	645 050 1401	PINCH ROLLER
TM03	645 030 6839	E HEAD
TM04	645 050 1395	RF BELT
TM05	645 050 1784	MAIN BELT
TM06	645 050 2101	ASSY,MOTOR

IC BLOCK DIAGRAM & DESCRIPTION

IC101 LC72131(PLL)

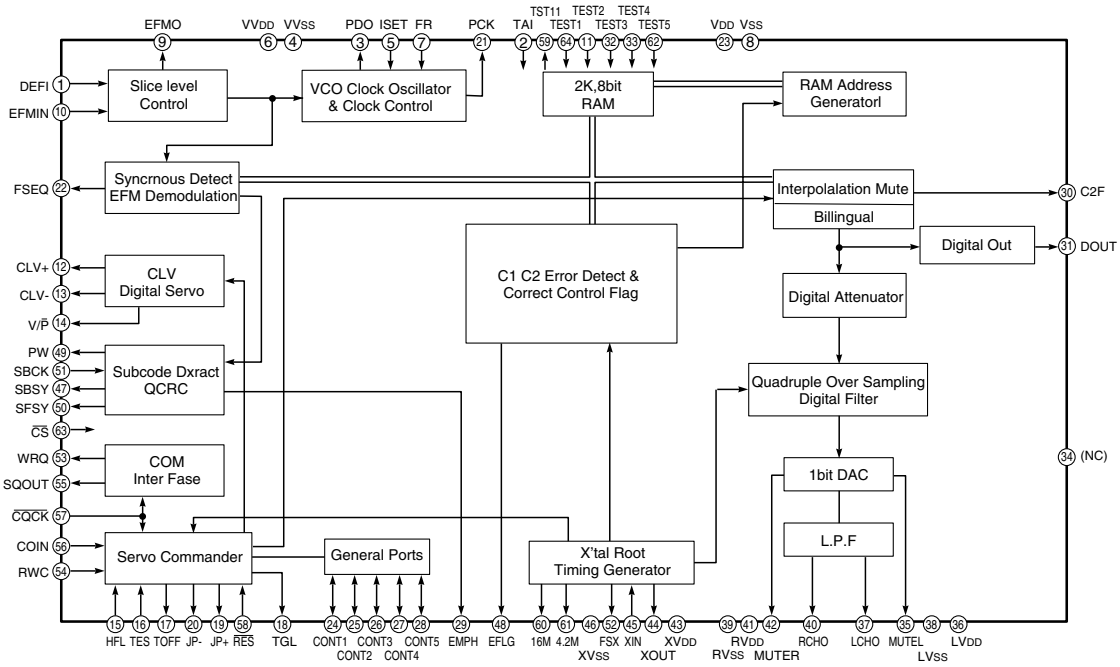


IC402 S-81256G(Voltage Regulator)

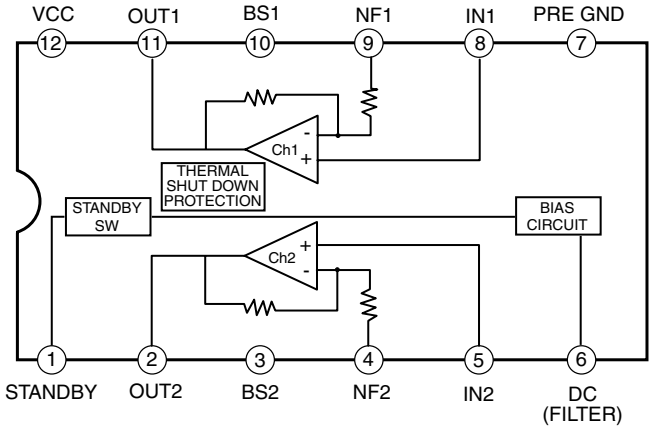


IC BLOCK DIAGRAM & DESCRIPTION

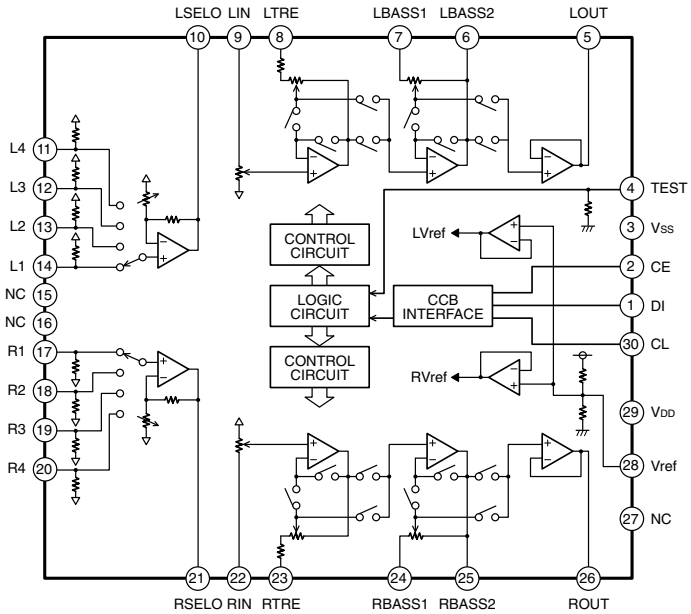
IC902 LC78622E(Degital Signal Processor)



IC301 LA4227(Power Amp)



IC501 LC75342(2 Band Equalizer)



IC BLOCK DIAGRAM & DESCRIPTION

IC902 LC78622E(Degital Signal Processor)

Terminal No.	Terminal symbols	I/O	DESCRIPTION	
1	DEFI	I	Input terminal for defect detection signals (DEF). (Ground when not used.)	
2	TAI	I		Input terminal for test. Pull-down resistor incorporated. Make sure to ground.
3	PDO	O		Output terminal for phase-comparator for external VCO control.
4	VVSS	-	For PLL	Ground terminal for internal VCO. Make sure to ground.
5	ISET	AI		Resistive connection terminal for current regulation of PDO output.
6	VVDD	-		Power terminal for internal VCO.
7	FR	AI		For VCO frequency range control.
8	VSS	-	Ground terminal for digital signals. Make sure to ground.	
9	EFMO	O	For slice level control	Output terminal for EFM signals.
10	EFMIN	I		Input terminal for EFM signals.
11	TEST2	I	Input terminal for test. Pull-down resistor incorporated. Make sure to ground.	
12	CLV+	O	Output for disk motor control. 3 values can be output by a command.	
13	CLV-	O		
14	V/*P	O	Output terminal for automatic switching monitor between rough servo and phase control. (Rough servo on "H"positio phase servo on "L".	
15	HFL	I	Input terminal for track detection signals. Schmitt input.	
16	TEST2	I	Input terminal for tracking error signals. Schmitt input.	
17	TOFF	O	Output terminal for tracking-off.	
18	TGL	O	Output terminal for tracking gain switching. "L" position increases gain.	
19	JP+	O	Output for track jump control. 3 values can be output by a command.	
20	JP-	O		
21	PCK	O	Terminal for clock monitor for EFM data reproduction. 4.3218 MHz when phase locked.	
22	FSEQ	O	Output terminal for synchronizing signal detection. "H" position when the synchronizing signals detected in EFM sign match with the synchronizing signals generated internally.	
23	VDD	-	Power terminal for digital signals.	
24	CONT1	I/O	Generalized I/O terminal 1	Controlled by a serial data command from micro-computer. When not used, either u as input terminal and then ground or use as output terminal and then open circuit.
25	CONT2	I/O	Generalized I/O terminal 2	
26	CONT3	I/O	Generalized I/O terminal 3	
27	CONT4	I/O	Generalized I/O terminal 4	
28	CONT5	I/O	Generalized I/O terminal 5	
29	EMPH/ CONT6	O	Terminal for de-emphasis monitor. De-emphais disk is being reproduced while in the "H" position. Or generalized Ou terminal 6.	
30	C2F	O	Output terminal for C2 flag.	
31	DOUT	O	Output terminal for digital OUT. (EIAJ format)	
32	TEST3	I	Input terminal for test. Pull-down resistor incorporated. Make sure to ground.	
33	TEST4	I	Input terminal for test. Pull-down resistor incorporated. Make sure to ground.	
34	PCCL	I	Generalized I/O terminal for command identification. Pull-down resistor incorporated. When used as the same functi as LC78622E, open circuit or ground. ("H" position: enables only generalized I/O command to be controlled. "L" pos enables all the commands to be controlled.)	
35	MUTEL/C ONT7	O	L channel 1-bit DAC	Mute output terminal for L channel. Or generalized output terminal 7.
36	LVDD	-		Power terminal for L channel.
37	LCHO	O		Output terminal for L channel.
38	LVSS	-		Ground terminal for L channel. Make sure to ground.
39	RVSS	-	R channel 1-bit DAC	Ground terminal for R channel. Make sure to ground.
40	RCHO	O		Output terminal for R channel.
41	RVDD	-		Power terminal for R channel.
42	MUTER/C ONT8	O		Mute output terminal for R channel. Or generalized output terminal 8.

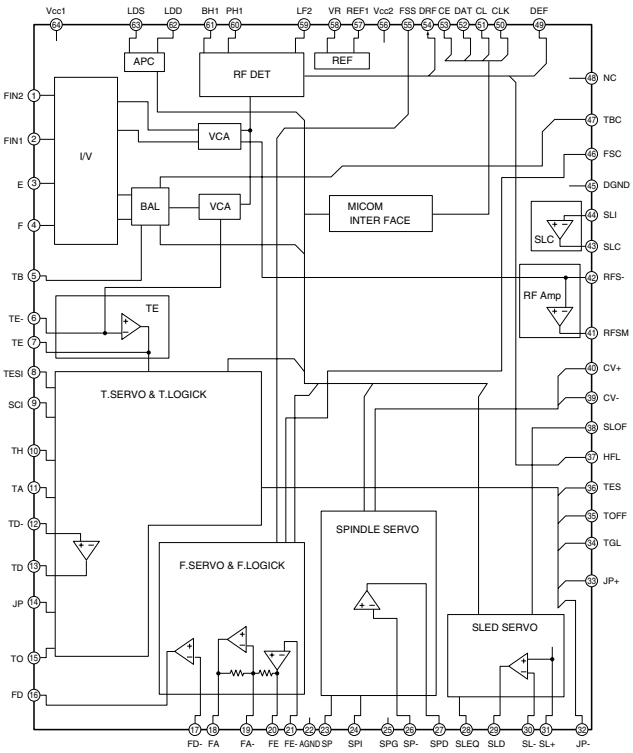
IC BLOCK DIAGRAM & DESCRIPTION

IC902 LC78622E(Degital Signal Processor)

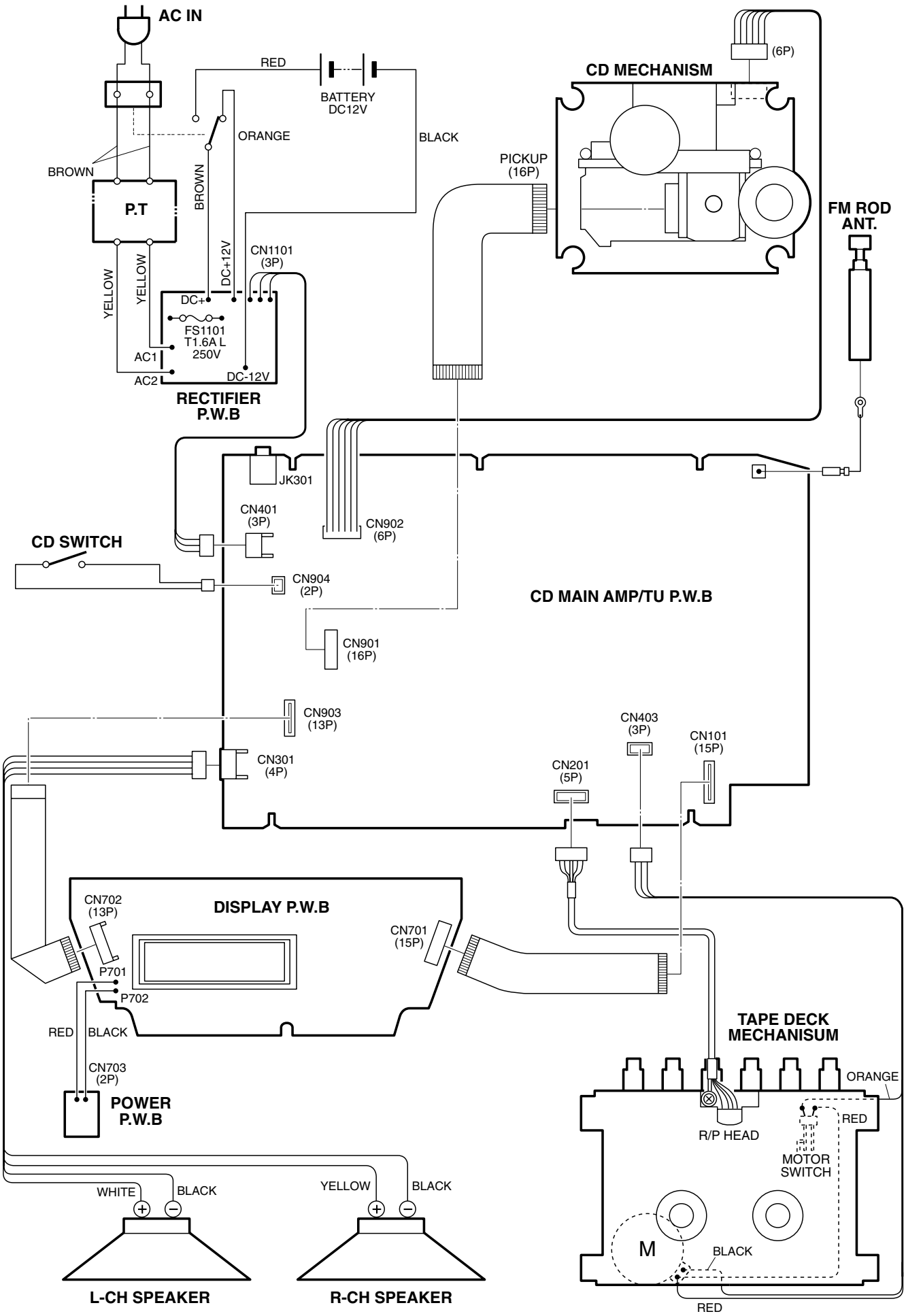
Terminal No.	Terminal symbols	I/O	DESCRIPTION
43	XVDD	-	Power terminal for crystal oscillator
44	XOUT	O	Joining terminal for crystal resonator (16.9344 MHz)
45	XIN	I	
46	XVSS	-	Ground terminal for crystal oscillator. Make sure to ground.
47	SBSY	O	Output terminal for synchronizing signals of sub-code clock.
48	EFLG	O	Monitor terminal for 1 bit or 2 bit error correction
49	PW	O	Output terminal for sub-code P, Q, R, S, T, U or W.
50	SFSY	O	Output terminal for synchronizing signals of sub-code frame. When sub-code is stood by, falls.
51	SBCK	I	Input terminal for clock to read out sub-code. Schmitt input (when not used, make sure to ground.)
52	FSX	O	Output terminal for synchronizing signal (7.35 kHz) which is divided from crystal oscillator.
53	WRQ	O	Output terminal for Q output standby of sub-code.
54	RWC	I	Input terminal for read/write control. Schmitt input.
55	SQOUT	O	Output terminal for Q output of sub-code.
56	COIN	I	Input terminal for command from micro-computer.
57	*CQCK	I	Input terminal either for clock to take in command input or for clock to take out sub-code from SQOUT. Schmitt inpu
58	*RES	I	Input terminal for reseting this LSI. Switches to "L" position for a moment at power-on.
59	TST11	O	Output terminal for test. Make sure to open circuit. (Normally "L" output)
60	16M	O	Output terminal of 16.9344 MHz
61	4.2M	O	Output terminal of 4.2336 MHz
62	TEST5	I	Input terminal for test. Pull-down resistor incorporated. Make sure to ground.
63	*CS	I	Input terminal for chip selecting. Pull-down resistor incorporated. Make sure to ground when not controlled.
64	TEST1	I	Input terminal for test. No pull-down resistor. Make sure to ground.

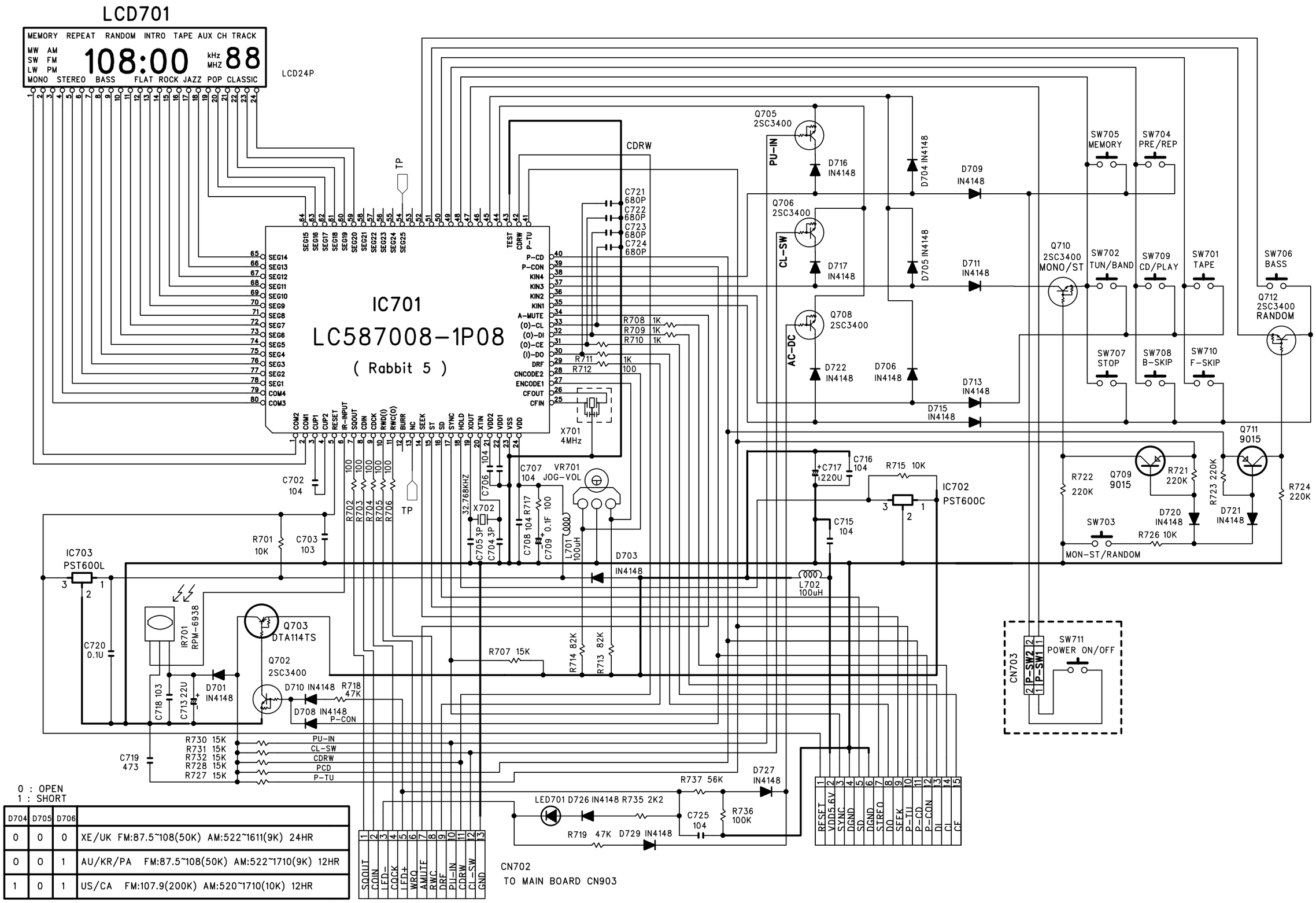
Note: Each power terminal (VDD, VVDD, LVDD, RVDD and XVDD) must be supplyed with the same voltage.

IC901 LA9241M(Servo Signal Processor)



WIRING CONNECTION



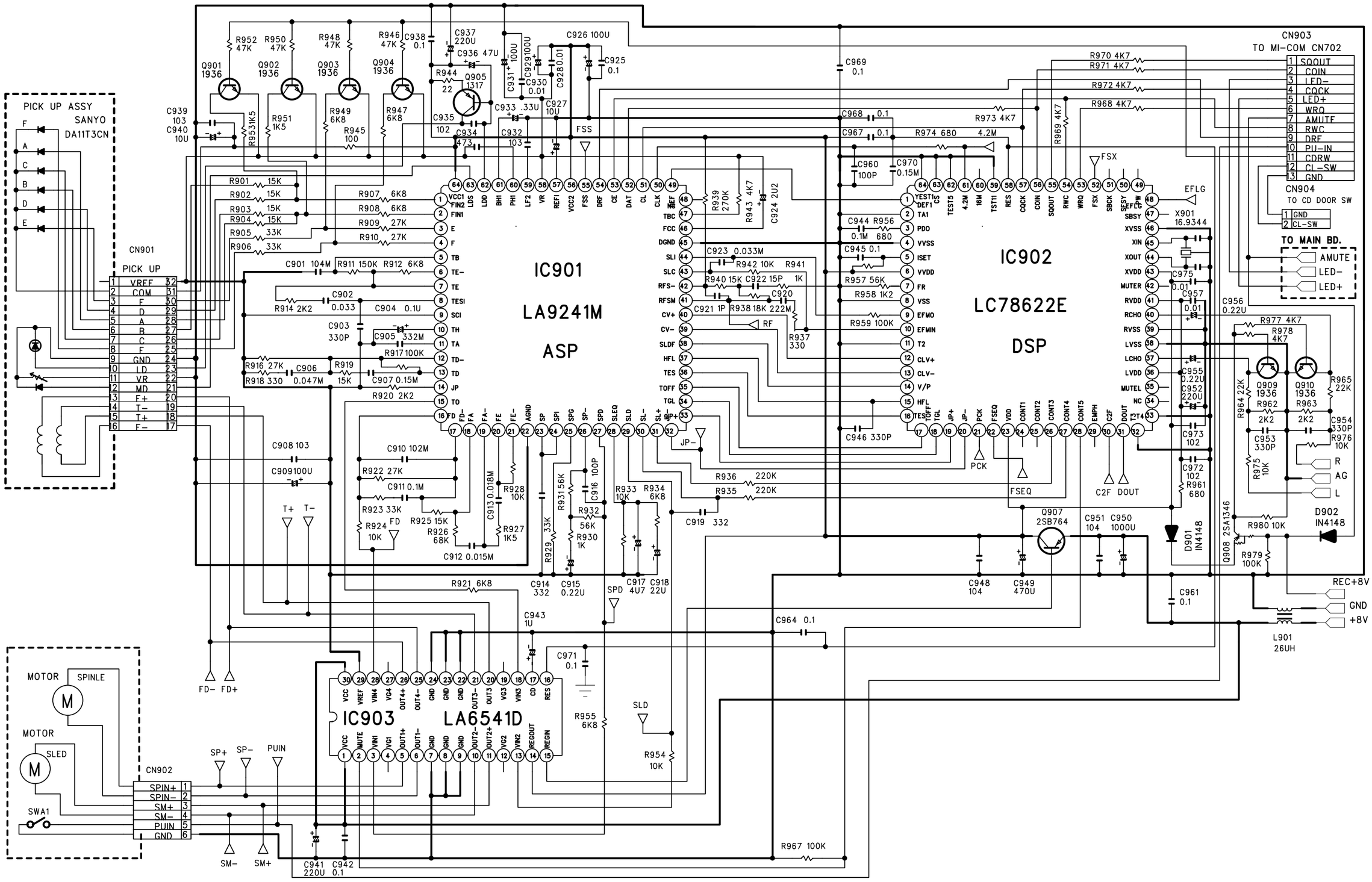


0 : OPEN
1 : SHORT

D704	D705	D706	
0	0	0	XE/UK FM:87.5~108(50K) AM:522~1611(9K) 24HR
0	0	1	AU/KR/PA FM:87.5~108(50K) AM:522~1710(9K) 12HR
1	0	1	US/CA FM:107.9(200K) AM:520~1710(10K) 12HR

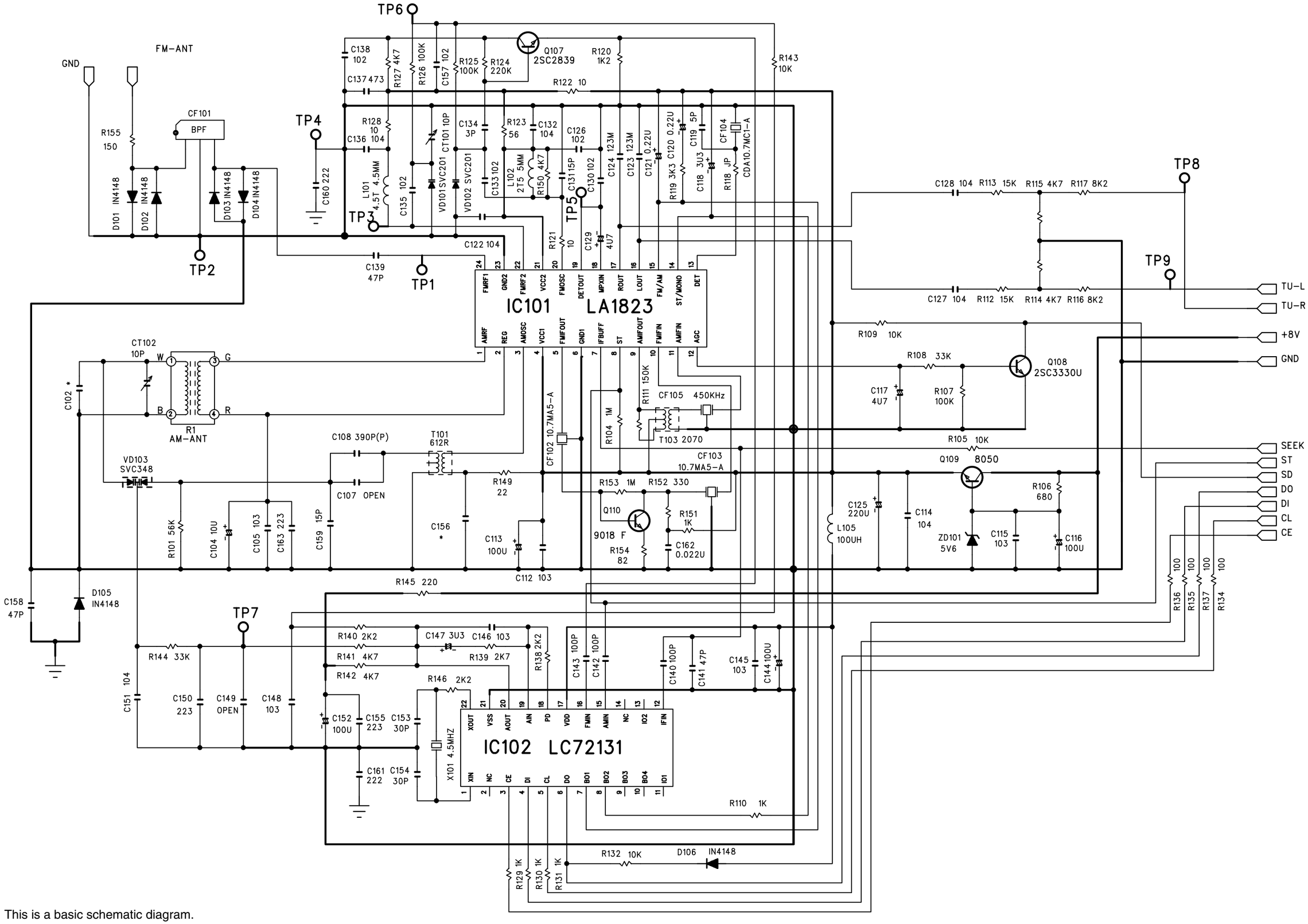
This is a basic schematic diagram.

SCHEMATIC DIAGRAM(CD)



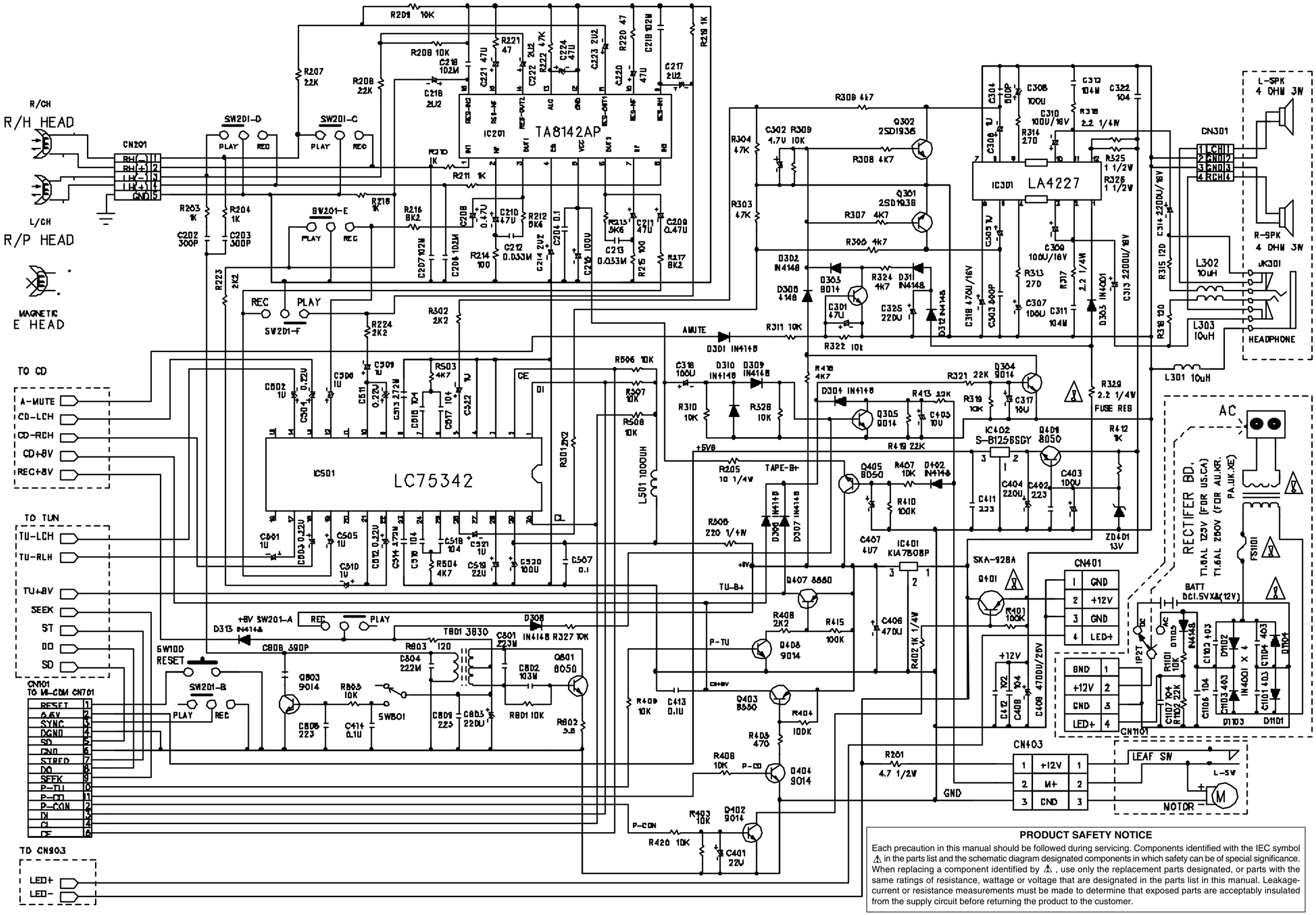
This is a basic schematic diagram.

SCHEMATIC DIAGRAM(TUNER)



This is a basic schematic diagram.

SCHEMATIC DIAGRAM(MAIN)

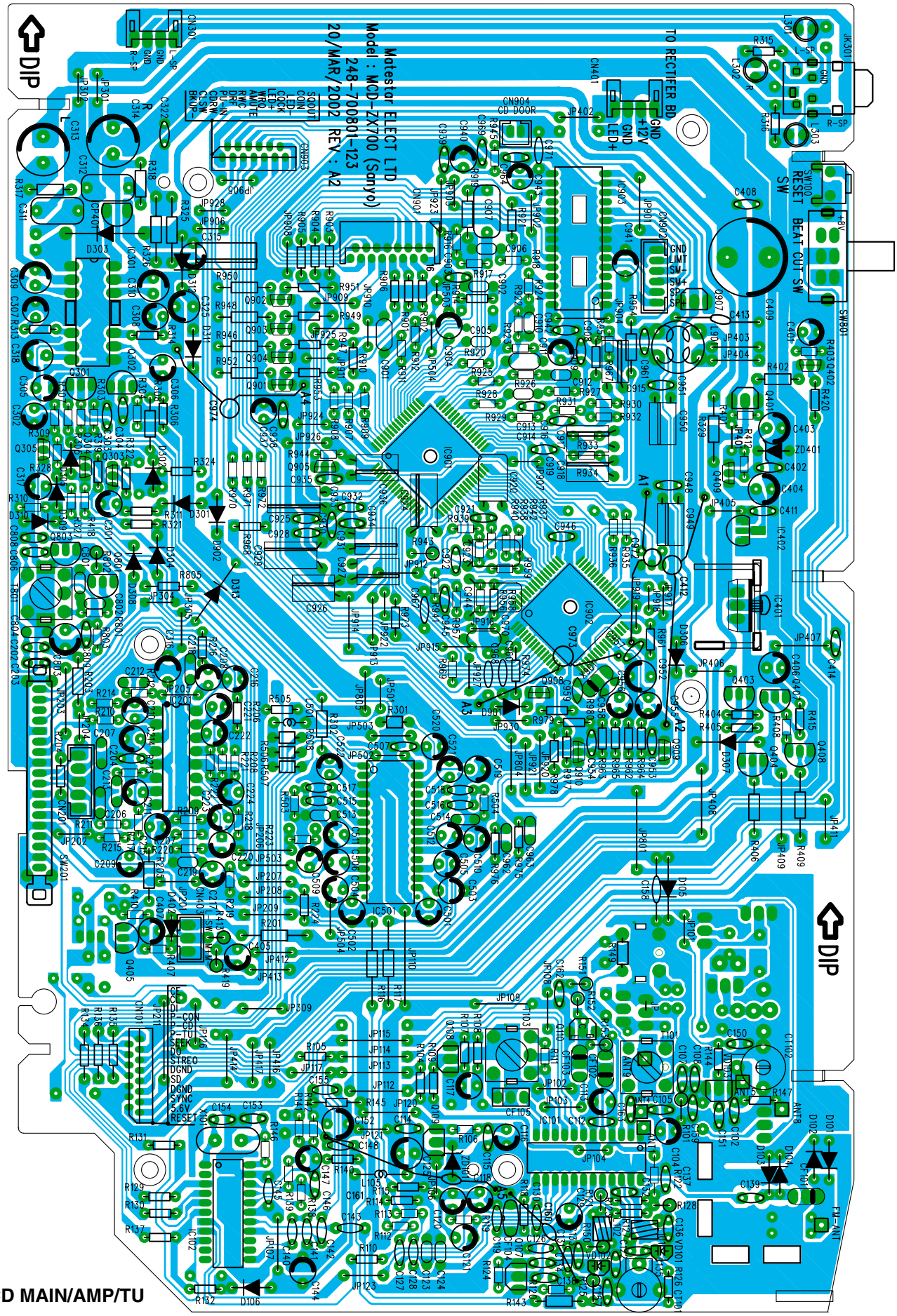


PRODUCT SAFETY NOTICE

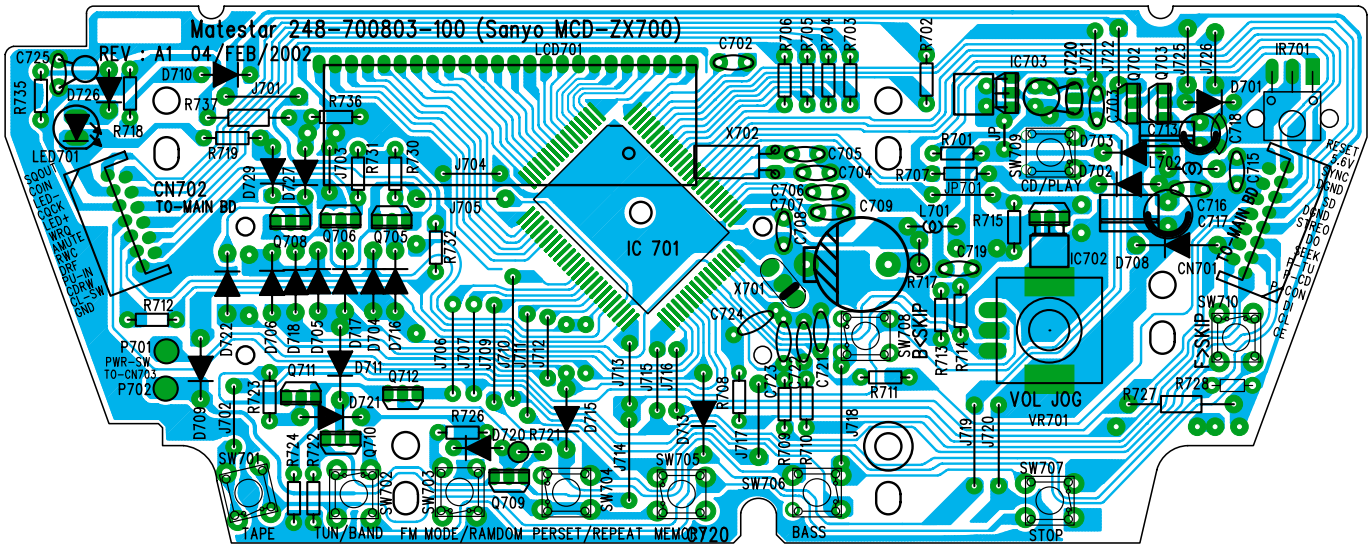
Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designated components in which safety can be of special significance. When replacing a component identified by ⚠ , use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

This is a basic schematic diagram.

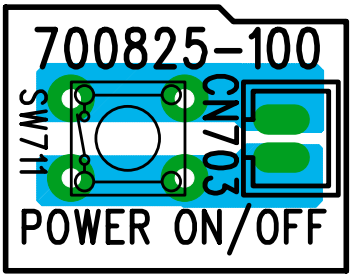
WIRING DIAGRAM (CD MAIN/AMP/TU)



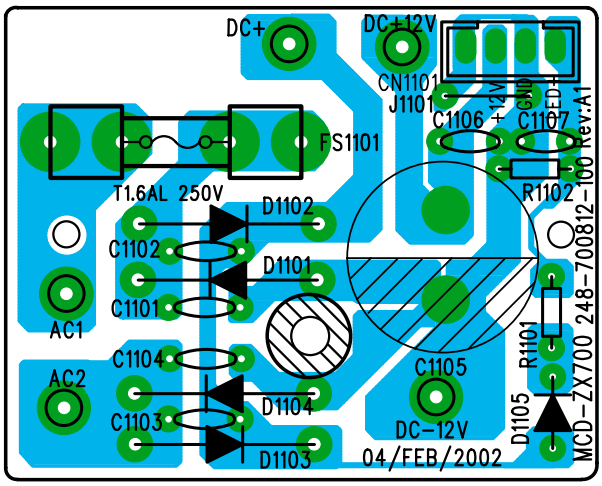
WIRING DIAGRAM RECTIFIER , DISPLAY , POWER)



DISPLAY



POWER



RECTIFIER

SANYO

SANYO Technosound Co., Ltd.
Osaka, Japan